

# **Communications and Integration Enhancements to Improve Homeland Security**

by

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The Counterproliferation Papers  
Future Warfare Series No. 41  
USAF Counterproliferation Center

Air University  
Maxwell Air Force Base, Alabama

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>JUL 2007</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2007 to 00-00-2007</b>	
4. TITLE AND SUBTITLE <b>Communications and Integration Enhancements to Improve Homeland Security</b>			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S)			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Air University,USAF Counterproliferation Center,325 Chennault Circle,Maxwell AFB,AL,36112-6427</b>			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>40</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

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July 2007

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Counterproliferation Paper No. 41  
USAF Counterproliferation Center

Air University  
Maxwell Air Force Base, Alabama 36112-6427

The Internet address for the USAF Counterproliferation Center is:

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## **Executive Summary**

This paper addresses specific and streamlined situational awareness recommendations that, when combined with National Guard capabilities, will greatly enhance U.S. Homeland Security responses. These technology enhancements and processes combined with the force capabilities that the National Guard has recently created, when integrated with other national capabilities, will greatly improve national coordination during responses to national disasters or potential terrorist attacks. These capabilities are especially critical in responding to potential mega-terror events for which the nation needs to prepare. Because of the sense of urgency generated from the attacks of September 11, 2001, a large amount of money has been spent to prepare the country for future terrorist attacks. Unfortunately, there has been too little attention given to ensure that the resulting system of systems is seamlessly tied together.

The Department of Defense is one of many federal agencies and organizations responsible for Homeland Security. The military, being the lead for Homeland Defense, is supported by other agencies in defending against external threats and aggression. However, in most instances, the collaboration capabilities were specifically designed for military operations and there would be difficulty in switching them to also perform Homeland Security roles.

In a budgetary environment, where demands and requirements are larger than the money appropriated to cover them, utilizing all the nation's capabilities in the optimal way must be a top priority. The National Guard provides a cost-effective and responsive force that can utilize not only its manpower and resources, but also its positioning in local communities where it has been performing Homeland Security and Defense for over 300 years. Building on this foundation is a force structure trained to respond to catastrophic events. The problem addressed here is how the nation can capitalize on the National Guard's evolving capabilities to help bring the nation's other agencies seamlessly into responses to natural disasters or terrorist attacks.

The National Guard has been transformed from a strategic reserve in the days of the Cold War, into a fully operational force now active both in operations overseas and in protecting the U.S. homeland. This transformation has embedded capabilities that make the Guard a force multiplier in its homeland defense and civil support roles. Since the Al Qaeda attacks of September 11, 2001, the Guard has applied the lessons learned to provide capabilities that will allow U.S. responders to quickly and efficiently react to future catastrophic events. There are four National Guard capabilities that will be covered in this paper:

- 54 Joint Force Headquarters-State Organizations;
- 55 Weapons of Mass Destruction-Civil Support Teams (WMD-CST);
- 17 Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive Enhanced Response Force Packages (CERFP); and
- National Guard Quick Response Forces.

The Joint Force Headquarters-State is the key component that provides a capability to report and support a local response in a state or territory. It is access to information at this state and local level that would enhance national decision makers in mitigating a catastrophic event. These 54 headquarters are using the Joint Continental United States Communications Support Environment (JCCSE) program to build and support situational awareness. This is an information technology umbrella that can provide a common situational awareness to responders at all levels.

The Guard has also dedicated forces to assist local responders in detecting and quantifying weapons of mass destruction effects. The primary capabilities in this capacity are the 55 Weapons of Mass Destruction-Civil Support Teams (WMD-CSTs) and the 17 existing Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Enhanced Response Force Packages (CERFPs). This is a response capability that is enhanced by the National Guard's forward presence in the local communities, and is a capability that can be deployed in a Title 32 or 10 status, making it a highly flexible homeland security response tool.

Building upon these Guard capabilities and using information that can enhance the situational awareness of all responders to a national security crisis in the U.S. homeland will allow national decision makers to formulate well-educated, timely response decisions.

# **Communications and Integration Enhancements to Improve Homeland Security**

Terrance W. Sando

## **Introduction**

Defining and developing the strategy and capabilities for defending the homeland in-depth is one of the most pressing needs of the United States. It is a complex and perplexing problem that is exacerbated by the asymmetric threats that non-state actors, who are becoming more prominent, are posing to our nation's interests. This has become even more relevant since the terrorist attacks on September 11, 2001. This attack on America, when coupled with the proliferation of weapons of mass destruction, brought home the reality of our nation's vulnerability to asymmetric threats. The potential to threaten the population of the United States and the homeland directly has been the stimulus to seek viable solutions to defend against this shift in warfare. The ability to adapt our nation's response to prevent or mitigate a catastrophic mega-terror event is our most urgent priority. This type of warfare will demand an in-depth knowledge of consequence management technology and mitigation. Determining the proper balance between the Department of Defense and other government agencies will have a significant impact on the overall effectiveness and efficiency of national response efforts.

To complicate matters, the definition of homeland security is more than just being able to respond to terrorist attack; it also covers natural and man-made disasters like Hurricane Katrina. Being able to respond and manage such a diverse portfolio of events in a cost-effective and timely manner will tax the country's resources. Generally, events begin at the local level and may quickly overextend the local response capabilities, quickly creating the need for an additional state- or national-level response. This shift to higher levels of response can create problems of cohesion of efforts and giving all players a common and timely situational awareness.

## *2 . . . Communications and Integration Enhancements to Improve Homeland Security*

Standardizing and expanding the warning and communication of events needs to be given a high priority. Simple solutions such as augmenting 24-hour news sources with more specific and useful information from the National Guard event reporting at the state and territory level would provide national decision makers the fidelity of information needed to effectively respond to catastrophic events. Homeland security missions present significant challenges, one of the most important being how to support the requirement to plan and execute operations within complex, civil-military, multi-echelon, intergovernmental and interagency environment. To do this, those executing response operations will need continuous situational awareness to facilitate collaboration at the national, state, and local level in order to respond effectively to incidents.

In our inventory of current shortfalls, one needs to seek better answers to a number of key questions:

- What are the capabilities and expertise available to respond to events?
- What are the current information technology infrastructure capabilities?
- How are those engaged in interagency, intergovernmental, and intragovernmental responses going to communicate and maintain situational awareness in a timely manner?
- Does a mega-terror chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) event need a dedicated collaboration capability?

National response planning is based on escalating response capabilities from local to state to national levels. In a tiered response to incidents, with most emergencies happening at the local level, the Guard will usually be called after local responders find they need additional help. As such, Guard units will likely be the first military responders in the majority of instances. This is because the governor will employ his/her Guard assets in State Active Duty or Title 32 status as soon as a military capability is needed to augment civilian emergency response capabilities. This makes the National Guard, working under the state governor, the initial and primary military unit, to be utilized in emergencies.

Many agencies have their own communications and operating procedures that support homeland security, but it is the lack of standardization and commonality that has hindered the efforts of many of these agencies to provide a common operating picture that can give the national decision makers relatively accurate and complete information needed for rapid assessments when responding to events.

This paper advocates that the Department of Defense component most involved in homeland security activities, the National Guard, should also be the key player in providing timely information to the national leadership during a major disaster event. Guardsmen, because of their presence in each state and territory, can rapidly define an event and deploy a capability to deal with a broad spectrum of incidents. Because of these capabilities and their 50-state presence, it is the most cost-effective means of taking a lead role in homeland security event response.

## **Homeland Security – The Guard as Integrator**

Go into any joint operations center or joint intelligence center today and you will see one of the 24-hour news channels on a TV screen. Fox News Channel and CNN tend to be the favorites. In many instances the media is the primary means of warning of unusual activities or attacks happening around the world. These news sources are especially prevalent in centers that support homeland security. It is interesting that the private sector, using corporate practices, is more competent than the U.S. Government with its massive information technology infrastructure. However, if we elect to continue using the commercial sector for warnings and alerts, we still need to harness that information more rapidly and to combine it with additional data in order to turn it into information on which decisions and actions are based. In our effort to prepare for the worst-case scenario, a catastrophic terrorist attack, we especially will need to prioritize and channel critical resources and capabilities very quickly.

There was a definite information shortfall on September 11, 2001. We as a nation were looking outward and were caught off guard when the attack came on our own soil. The nation's military was collecting and collating a large amount of technical intelligence from a host of sensors that monitor activities of our peer competitor: the Former Soviet Union and its main

successor, Russia. The North American Aerospace Defense Command, a binational command between the United States and Canada, was responsible for protecting North America from missile and air attack that day. It was a job that had been carried out for over four decades with a perfect record. Any potential threats were scrutinized and assessed by decision makers who were provided high fidelity information in a timely manner.

The U.S. homeland defense system worked flawlessly until it was confronted with an asymmetric threat that taxed the system beyond its limits. Many of the capabilities that had been developed for preventing a nuclear attack during the height of the Cold War had been degraded as part of the peace dividend of the early 1990s. The threat of Soviet bombers diminished significantly as the Cold War ended, and the North American Aerospace Defense Command alert sites were significantly reduced from a Cold War high of 26.<sup>1</sup>

Dedicated radars for air defense had also been drastically reduced, leaving us mostly dependent upon onboard transponders in the aircraft for gauging their locations. Defense radars were mainly looking outward for external threats, making identification of potential internal threats difficult. By September 11, 2001, there were only seven aircraft alert sites left in the United States, each with two fighter aircraft on alert.<sup>2</sup>

On 9/11 the two most prominent information sources were Fox News and CNN which provided footage that was real-time or near real-time on the three airliner crashes that reached their targets, and in reporting the fourth airliner crash short of its intended target. National decision makers were using this televised information to formulate their crisis responses. Was the coverage that day a paradigm shift for decision makers at all levels of our nation's government or just an anomaly because of the severity of the attacks?

With the advent of 24-hour news channels, a major commitment of resources was made by CNN and then Fox News in an effort to increase viewer loyalty. Resources drove these organizations to become sophisticated in their ability to find and report breaking news in shorter and shorter reporting cycles. These news channels had perfected the observe, orient, decide, and act (OODA) loop when it came to news reporting. Constant news coverage wasn't a new phenomenon, but instead was one that had matured and become more competitive. Using the World Trade Center attacks as an example, the first bombing in 1993, was widely

reported on by CNN. By September 11, 2001, both Fox News and CNN were able to provide useful needed coverage and had developed a loyal following, including in its audience the U.S. military operations and intelligence centers. Clearly, it is vital to maintain and upgrade a 24-hour news service in military warning and decision-making processes. This is required, if we are to build full situational awareness in such crisis events. Without accurate and timely information, many lives could be lost and responses may be ineffective.

One roadblock to progress is the number of players in disaster relief and the differing processes and procedures each follow. This is a barrier to the effective processing and synthesizing of information. Having a streamlined information-sharing process directed by a lead organization that can both provide vital communications networks, and a robust capability to mitigate unfolding events in a timely manner, will be vital to the success of future national disaster responses.

The National Guard is positioned to be such a lead agency. With its forward presence in all the states and territories, its information will complement that of the 24-hour news channels in providing enhanced information for decision makers. It also has invested in a command and control infrastructure that should be used by national leadership. The following pages will detail processes and capabilities that are in place today that need to be fully utilized to better prepare for any attack or natural disaster on the homeland.

## **9/11 Forced Policy and Organizational Changes**

The Al Qaeda September 11, 2001, terrorist attack and its immediate aftermath forced a review of U.S. national security policy and the most sweeping governmental changes since the inception of the Cold War. Most notable was the consolidation of several organizations into the Department of Homeland Security, a cabinet department, which is responsible for all functions related to Homeland Security. With approximately 184,000 employees, it is the third largest cabinet department in the United States federal government after the Department of Defense and Department of Veterans Affairs.<sup>3</sup> This massive reorganization was a huge undertaking that has created short-term

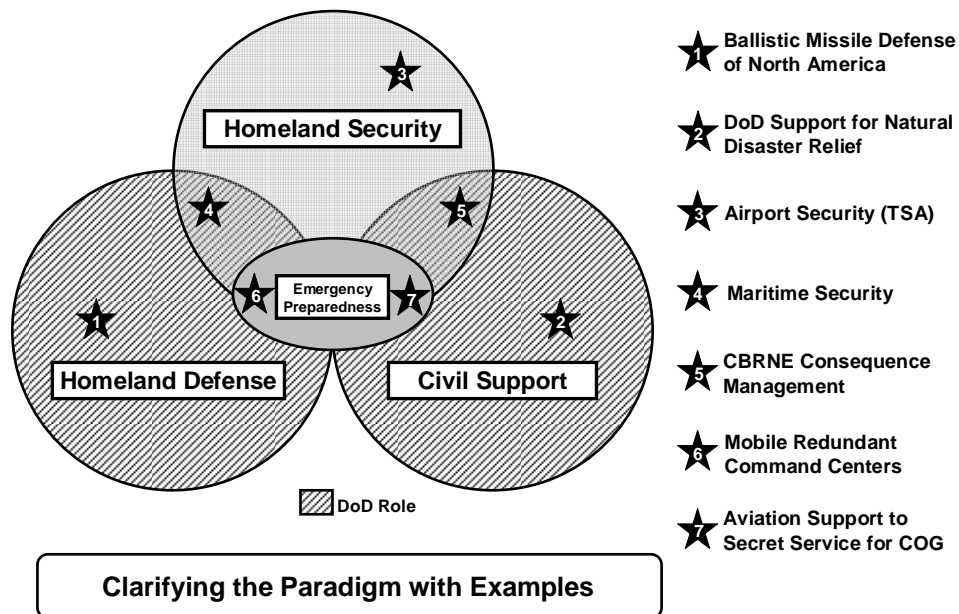
problems that need to be surmounted in order to provide the efficiencies that were the purported basis for the consolidation. The combining of so many different cultures and processes is one of the leading causes of the lack of centralized communications that prevents a common operating picture of developing events. This oftentimes results in national leadership getting confusing and conflicting situational information. Let's put the urgency of why this system needs to be addressed into context.

Homeland security is the nation's number one priority and it requires an extensive national effort. The homeland, in the strategic context, is described as the physical region that includes the continental United States, Hawaii, Alaska, U.S. territories and possessions along with the corresponding airspace and territorial waters. Three regional commands are involved in protecting this area: Pacific Command, Southern Command, and Northern Command. The defense of Hawaii and our territories and possessions in the Pacific is the responsibility of U.S. Pacific Command. The defense of Puerto Rico and the U.S. Virgin Islands is the responsibility of U.S. Southern Command. Northern Command is responsible for the continental United States and Alaska, along with the adjoining air, land, and sea approaches. Just like the Department of Homeland Security there is no single Department of Defense organization responsible for providing military situational awareness for events as they happen. Unless fixed, this will cause decision makers to act with far less complete information than they will need and delay timely, well-coordinated responses.

To preserve the freedoms guaranteed by the Constitution of the United States, the nation must have a homeland that is secure from threats and violence, including terrorism. The Homeland Security Act of 2002 created the Department of Homeland Security. This act established the authority to direct efforts to protect against attacks at home and to develop the National Strategy for Homeland Security which compliments the National Security Strategy of the United States by providing a comprehensive framework for organizing the efforts of federal, state, local, and private organizations whose primary functions are often unrelated to national security. Critical to understanding the overall relationship is an understanding of the distinction between the role that Department of Defense plays with respect to securing the nation and homeland security, and the policy in the National Strategy for Homeland



Security, which has the Department of Homeland Security as the lead. Homeland Security at the national level focuses on disasters and terrorist threats. The Department of Defense focus in supporting Homeland Security is broader.<sup>4</sup> Department of Defense is lead for Homeland Defense, but has equities and responsibilities in Homeland Security, Civil Support, and Emergency Preparedness (see Figure 1). Let us look now at the details of the Department of Defense strategy and focus in these roles.



**Figure 1. Clarifying the Paradigm with Examples**

The National Defense Strategy of the United States of America, dated March 2005, addresses our changing security environment. The U.S. military predominates in the world in traditional forms of warfare. Potential adversaries accordingly shift away from challenging the United States through traditional military action and adopt asymmetric capabilities and methods. These days, an array of traditional, irregular, catastrophic, and disruptive capabilities and methods threaten U.S.

interests.<sup>5</sup> Even though these categories overlap, the one that we need to be most concerned about for homeland security is the catastrophic challenge. In the face of American dominance in traditional forms of warfare, some hostile forces continue seeking to acquire catastrophic capabilities, particularly weapons of mass destruction (WMD) and mass effect (WME). Porous international borders, weak international controls, and easy access to information related technologies facilitate these efforts. Particularly troublesome is the nexus of transnational terrorists and problem states that possess or seek weapons of mass destruction, which increases the risk of such attacks against the United States.

The Department of Defense supports the National Strategy for Homeland Security through two distinct but interrelated mission areas: homeland defense and civil support. Homeland defense is the protection of U.S. sovereignty, territory, domestic population, and critical infrastructure against external threats and aggression or other threats as directed by the President.<sup>6</sup> The Department of Defense is responsible for homeland defense and is the lead or primary agency. The Department of Defense conducts homeland defense missions whenever the President, exercising his constitutional authority as Commander in Chief, authorizes military actions. Missions such as defending against an invasion of the United States, utilizing air and missile defenses are good examples.

The homeland is confronted with a wide spectrum of potential threats on a daily basis. These range from traditional national security threats (air or ballistic missile attack) to law enforcement threats (drug and illegal smuggling). This spectrum is well-defined on both ends but is somewhat ambiguous in the center. It is this seam in the middle, where there is no clear line of responsibility for defending against threats, that responsibilities are not clearly defined. The lead agencies on either end are the Department of Defense and the Department of Homeland Security; the latter can be represented by any agencies within its five distinct directorates and two independent services – the Secret Service and Coast Guard (see Figure 2). Synchronization and integration of all instruments of national power is important to ensure successful planning and execution of homeland security. The Department of Defense is one of many federal agencies and organizations that is partly responsible for homeland security. It participates in interagency groups and processes, but is the principal or lead agency for homeland defense plans. It also works in

concert with other lead agencies in a supporting role for handling domestic incident management.

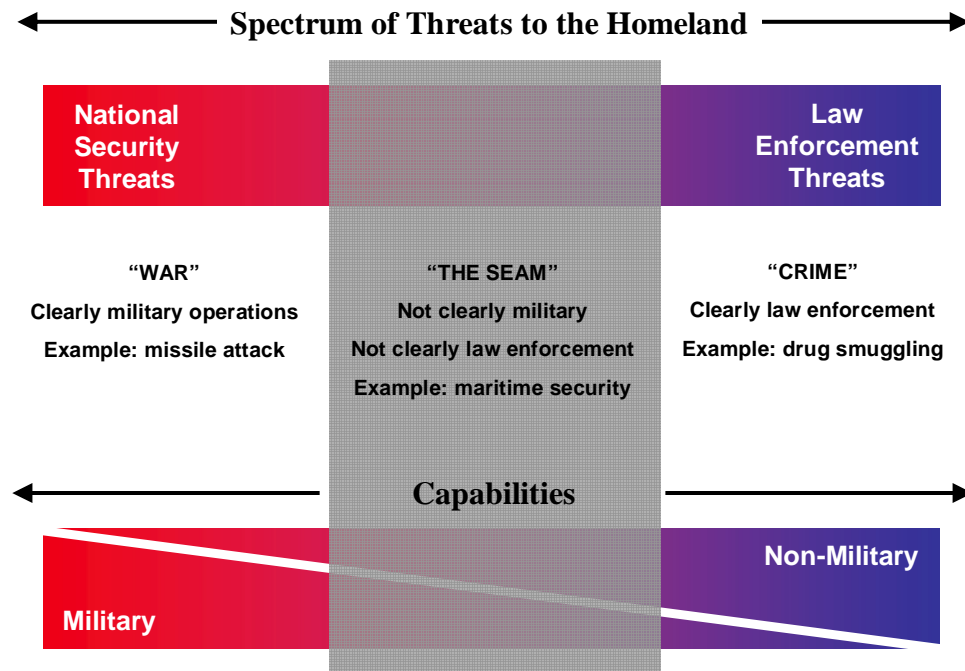


Figure 2. The Seam

## Department of Defense in Civil Support

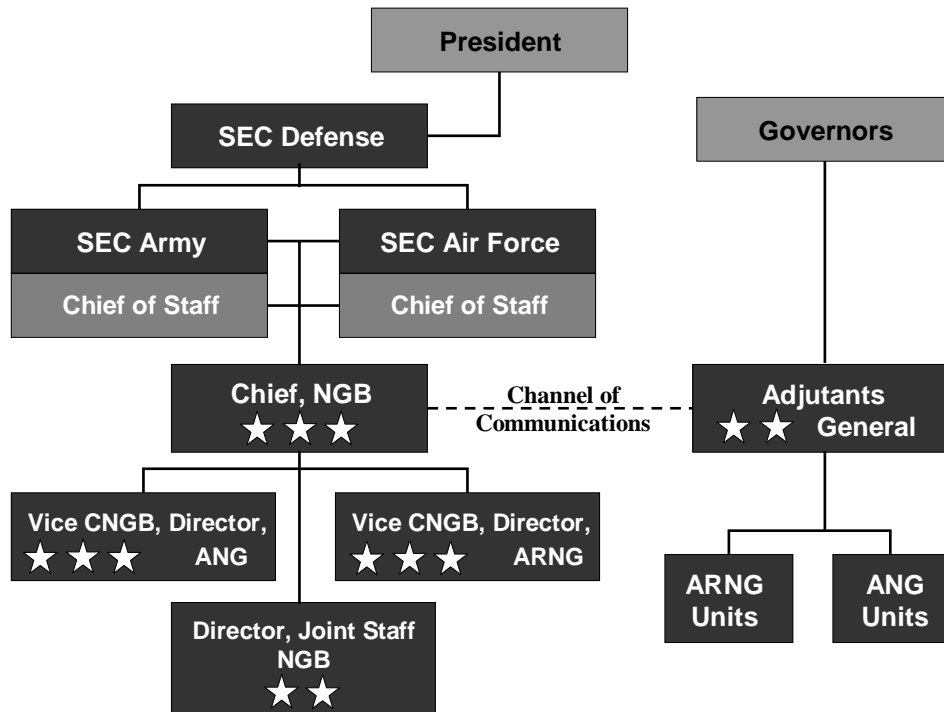
For example, the Department of Defense’s role in the civil support mission area consists of support to United States civil authorities for domestic emergencies and for designated law enforcement within the scope of restrictions required by the Posse Comitatus Act and other support approved by the Secretary of Defense. The Secretary of Defense provides military assistance to United States civil authorities for domestic incidents as directed by the President and consistent with military

readiness, Department of Defense directives, and the law.<sup>7</sup> Within these boundaries there are a number of factors to be considered when using active duty forces in this role. The primary one is the dilution of warfighting skills that would be a consequence of using vital training time devoted to maintaining the skills necessary to support civil authorities. One unique exception is the National Guard. The Guard isn't restricted by the Posse Comitatus Act when in a state or Title 32 status, which allows it a broader spectrum of civil support participation. Guard units also have a Title 10 operational warfighting task as well as state/territory support to the governor for emergency tasking.

## **National Guard Structure**

The National Guard Bureau, as a Joint Bureau, is the channel of communications between the Secretaries and Chiefs of the Army, Air Force, and all the states and territories on all matters pertaining to the National Guard. On behalf of the Secretary of the Army and the Secretary of the Air Force, the National Guard Bureau provides situational awareness on National Guard matters affecting homeland defense and defense support to civil authorities to the Office of the Secretary of Defense, the Combatant Commands, and the Joint Staff (see Figure 3).

In accordance with direction from the Secretaries of the Army and the Air Force, the National Guard Bureau administers Department of Defense, Department of the Army, and Department of the Air Force policies, programs, and plans pertaining to National Guard matters, and facilitates the integration of federal and state activities. To the extent allowed by law, integration activities may include facilitation of mutual support among the states. The National Guard Bureau distributes and administers the budgets for the Army and Air National Guard.



**Figure 3. The National Guard: Constitutionally Unique**

The main takeaway from this formal description is the great deal of latitude in how the National Guard can be used. It can interface and operate in all levels of response from the local to the national level. But, even more important, because of its access to information at all levels and its developing capabilities to respond to everything from a natural disaster to a catastrophic terrorist attack, the Guard should become the centerpiece for providing national decision makers the information needed to respond to events. Funding and implementing indigenous Guard abilities to define time-critical events is one way to greatly improve situational awareness during a homeland security crisis. A more detailed look at Guard capabilities that have recently been fielded will be covered after a look at how the Pentagon had to reinvent itself to adapt to events after the September 11, 2001, attacks.

## **Impact of 9/11 on Department of Defense Activities**

The asymmetric threat environment resulting from the worldwide jihadist threats forced changes in the Department of Defense's organization and emphasis on capabilities to prevent future attacks. A new command, U.S. Northern Command (NORTHCOM), was established October 1, 2002, to provide command and control of Department of Defense homeland defense efforts and to coordinate defense support of civil authorities. Northern Command defends America's homeland – protecting our people, national power, and freedom of action.<sup>8</sup> Its area of responsibility includes defense of air, land, and sea approaches and encompasses the continental United States, Alaska, Canada, Mexico, and the surrounding water out to approximately 500 nautical miles. It also includes the Gulf of Mexico and the Straits of Florida.

The command plans, organizes, and executes homeland defense and civil support missions, but has few permanently assigned forces. The command is assigned forces whenever necessary to execute missions, as ordered by the President and Secretary of Defense. Civil service employees and uniformed members representing all service branches work at U.S. Northern Command's headquarters located at Peterson Air Force Base in Colorado Springs, Colorado.<sup>9</sup>

These missions present significant challenges, one of which is the requirement to plan and execute operations within a complex, civil-military, multi-echelon, intergovernmental and interagency environment.

Another problem even more disconcerting is the lack of dedicated forces to address the broad spectrum of operations that the command is responsible to perform. When Northern Command opened, the command had about 150 personnel. Today, there are 1,200.<sup>10</sup> This lack of personnel that is available to respond to events means that a slow response will be the best that can be achieved. This will be unacceptable in a catastrophic terrorist attack, especially one involving weapons of mass destruction where the loss of life is directly tied to an expeditious response.

Northern Command's civil support mission includes domestic disaster relief operations that occur during fires, hurricanes, floods, and earthquakes. Support also includes counter-drug operations and managing the consequences of a terrorist event employing a weapon of mass

destruction. The command provides assistance to a lead agency when tasked by Department of Defense. Per the Posse Comitatus Act, military forces can provide civil support, but cannot become directly involved in law enforcement. In providing civil support, Northern Command generally operates through established Joint Task Forces subordinate to the command.

An emergency must exceed the capabilities of local, state, and federal agencies before Northern Command becomes involved. In most cases, support will be limited, localized, and specific. When the scope of the disaster is reduced to the point that the lead agency can again assume full control and management without military assistance, Northern Command will exit, leaving the on-scene experts to finish the job.<sup>11</sup>

In general, Northern Command is mainly relegated to planning for contingencies and how to augment other government agencies who are in the lead. These are many great Americans trying to do great things in defense of the homeland, but they operate with a short span of control and in a very constrained environment. Trying to get information to maintain situational awareness from so many different agencies is a tall order that requires the effective collaboration of all sources and means of communication.

Being able to effectively support the need for collaboration in such a complex environment will entail a new construct which defines capabilities, vision, and implementation details. The operating environment will need to support continuous situational awareness and collaboration at the national, state, and local level in order to effectively respond to incidents. Collaborative capabilities can improve efficiency and common understanding during all phases of incident response. Effective collaboration will harness the interaction among all response participants and during time-compressed operations should streamline decision making, integrating cooperative efforts during any natural, terrorist, or other manmade events.

To complicate matters, this collaboration effort designed to achieve decision superiority is being driven by the U.S. military to meet its own specific requirements as well as those at home. The problem is that other agencies that work outside of the military have also designed their systems without consulting the Department of Defense. What we have now is a collection of systems that are not fully capable of interfacing with each

other. The need to collaborate is intuitive to all in the responsible agencies in the federal government. The problem is that a number of agencies in homeland security and other branches of government have developed their own collaboration processes. The resulting collection of stovepiped architectures each synthesize and prioritize information pertinent to their own agencies but do not always forward information needed by other agencies in order to build overall situational awareness. This shortfall could be critical in a future catastrophic terrorist attack.

The recent inability to communicate between agencies in the aftermath of Hurricane Katrina might pale in comparison to a situation such as a weapon of mass destruction attack. The chaos in such an event would dictate a rapid assessment of the situation and a coordinated timely response. Where and who would be called to build the situational awareness brief for national decision makers? If the event was in a large city, much of the information will be derived from local and national news channels. This is a good queuing source but it doesn't answer questions such as what forces are available to respond, what is the hot zone, and what facilities are nearby to help with consequence management.

This type of attack is exactly why the National Guard is developing capabilities to enable a response anywhere across the country. Unlike Northern Command, the Guard has forces forward deployed in each state and territory that would be available to respond in a short time. One of the key Guard assets in this scenario that could be postured to provide answers to the previous questions are the Joint Force Headquarters, available in each state and territory. These 54 headquarters, pushing information to the central National Guard Bureau Joint Operations Center, would provide details of what type of attack has taken place by relaying information from local responders. It would then follow this initial information with the status of Guard response, and, if pushed out to all state and federal government agencies, will focus attention on the attack and also raise awareness for other potential attacks in case this was a diversion. This information, in most instances, will be provided by the 55 Weapons of Mass Destruction-Civil Support Teams (WMD-CSTs) that are being stood up in each state and territory. Having details such as the type of weapon used, how large of an area is contaminated, and a realistic estimation of casualty numbers will be priority information for the national leadership when formulating response actions. This rapid dissemination of on-site



information must become a priority across the interagency networks and would augment and complete the information that already may be available to those operations centers.

## **Situational Awareness and United States Joint Forces Command**

The lead for military architecture is the U.S. Joint Forces Command, with its transformational Collaborative Information Environment becoming the standard. Collaboration capabilities can affect all aspects of joint operations. Although these capabilities can improve efficiency and common understanding during routine, peacetime interaction among participants, their potential value is most evident during time-compressed operations associated with combat and intense non-combat operations. These capabilities are important to Department of Defense efforts to transform the way we plan and execute joint operations. To accomplish this transformational task, we must improve collaboration among combatant commands, the armed services, agencies, and multinational partners. An environment of collaboration can enable and integrate such a cooperative effort among these organizations and help the joint force achieve decision superiority.<sup>12</sup> This definition of collaboration for the military's battlespace is also applicable for the other federal agencies that have to respond to homeland security events across the spectrum of operations.

A collaborative environment is one in which participants share data, perceptions, ideas, information, knowledge, and concepts. Collaboration has been an inherent element of operations and warfare. Over time technology has increased our ability to collaborate. Today's video, electronic mail, collaborative tools, secure voice, and data capabilities allow virtual meetings with a large number of participants to develop courses of action in the planning and execution of joint operations.

Shared situational awareness and the ability to make better decisions faster than an adversary depend on a number of capabilities inherent in the system:

- collaborative tools,

- decision support tools,
- a virtual information warehouse,
- common operational pictures,
- web-based enterprise portal, and
- knowledge management.

All of these systems are being refined and, most importantly, are being standardized to provide a near real-time environment that synthesizes all source information and then quickly translates it into knowledge that defines solutions that are actionable and relevant. This emerging collaboration capability with its revolutionary parallel, rather than serial, information processing was integral to National Guard planning in shaping the environment for mitigating homeland defense and civil support events. It resulted in the collaborative effort with Northern Command that established the Joint Continental United States Communications Support Environment (JCCSE) as the way ahead for the collaborative evolution of capabilities.

This program was a result of recommendations of the Defense Science Board 2003 Summer Study on the Department of Defense's Roles and Missions in Homeland Security. The Defense Science Board found that: "By nature, emergency response is local. Therefore, the national strategy for Homeland Security requires robust local, state, and regional preparedness. The Department of Defense has a forward deployed [an assertion clearly intended to address CONUS and territories, not OCONUS], community-based military force with long-standing, mature relationships with principal players in the domestic emergency response community that can be used for Homeland Defense and Defense Support to Civil Authorities missions. This resource is the National Guard."<sup>13</sup>

On July 24, 2003, the Chief of the National Guard Bureau, Lieutenant General Blum, introduced a proposal to initiate a number of Guard capabilities to address the Defense Science Board's study. The main ones that will be described form a thesis of this paper:

- The Joint Force Headquarters-State Organizations;
- Joint Continental United States Communications Support Environment Program;

- Weapons of Mass Destruction-Civil Support Teams (WMD-CSTs);
- Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (CBRNE) Enhanced Response Force Packages (CERFPs); and
- National Guard Quick and Rapid Reaction Force.

## **54 Joint Force Headquarters-State Organizations**

The key enabler to the Collaborative Information Environment required by the Department of Defense is the reorganization of the separate Army National Guard and Air National Guard Headquarters of the 54 states and territories into 54 Joint Force Headquarters-State organizations, each with a 24/7 joint operations center tailored to the needs of that particular state or territory.

Joint Continental United States Communications Support Environment program is an umbrella concept that enables the reliable and timely flow of key information among all 54 Joint Operations Centers and the National Guard Bureau Joint Operations Center. It is a construct for a communications and information technology system that consolidates the National Guard's geographically dispersed networks together in a communications bridge. Unfortunately, a construct doesn't yet allow for the gathering or collection of intelligence, law enforcement information, or other data. Rather, it is a technical solution to a communications bottleneck. The Joint Continental United States Communications Support Environment program will focus on linking stakeholders to enable the reliable and timely flow of vital information that supports the spectrum of key information required for homeland defense, defense support to civil authorities, and other mission needs. This environment will provide valuable communications support to federal, state and territorial, local, tribal, and private-sector response efforts when responding to incidents. This will streamline efforts and promote a correlated unity of effort in emergency situations.

An important aspect of the Joint Continental United States Communications Support Environment program system of systems is the Common Operating Picture, a database and visual reference that can be

used for decision making. The information that can be derived from this Common Operating Picture is the key to effective response to any category of events. It compiles all of the military data, both Guard and Title 10, together with critical infrastructure, state, and local information that can be displayed for any type of event. The problem is that, so far, this information has not been mainlined for interagency use and no techniques and procedures have been developed to disseminate it for national leadership decision making. However, there is a possible way-ahead to fix this problem.

### **A Suggestion: Use the Domestic Event/Threat Conferencing System**

There is an effective model in place that has been used since the standup of U.S. Northern Command. It is the Domestic Event/Threat Conferencing System. This is a telephone conference call that is run through a Red Switch secure communications system that was developed in order to rapidly convey possible attack information to the President and Secretary of Defense. It mainly dealt with potential nuclear InterContinental Ballistic Missiles or strategic aviation attack, but also addressed other significant events. Because of the short flight times of InterContinental Ballistic Missiles, there were strict timelines and the requirement for unambiguous data. It was a North American Aerospace Defense Command responsibility and until recently the command center was located in Cheyenne Mountain Air Force Station. The United States developed a redundant system that utilized technical means mainly based on infrared detecting satellites and ground-based radars to give initial warning indicators.

After September 11, 2001, it became apparent that a similar process would need to be developed to deal with domestic attacks. It was during the critical time between the official standup of Northern Command and the growth phase until Initial Operational Capability of the command that the Cheyenne Mountain Operations Center had a Northern Command representative called the Domestic Events Officer assigned to perform 24/7 operations to support Northern Command. It was during this critical

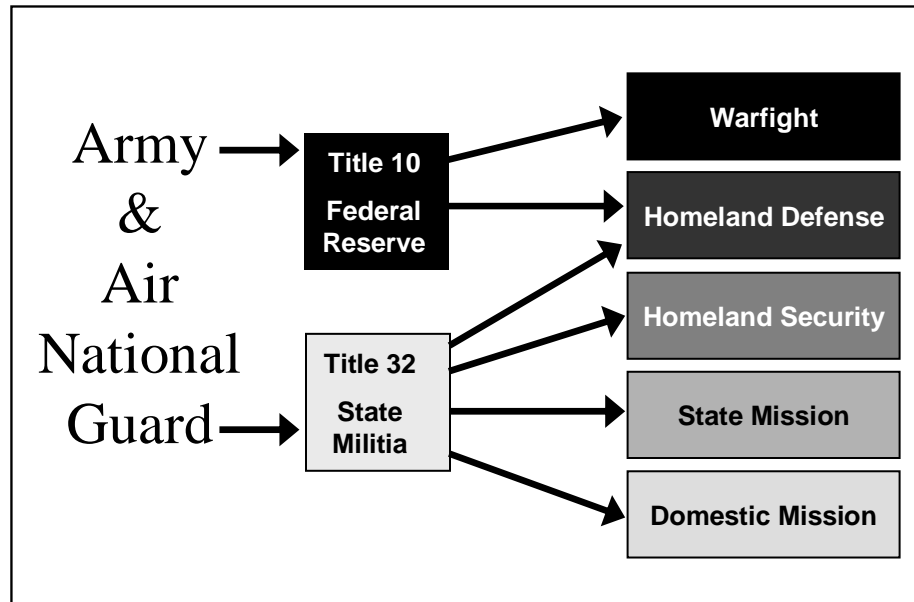
period while the command was trying to get its bearing, and an operations center was being built to support operations, that a procedure was developed to relay information on domestic activity.

Because it was centered on supporting the North American Aerospace Defense Command during this period, the Domestic Event/Threat Conferencing system evolved from and mimicked the attack warning conferencing system. Its database and checklists were built from that perspective, but was not all-source, and mainly relied on open source materials for information. Still the process matured rapidly and was used successfully on occasions like the shuttle disaster and the G-8 conference. It was exercised daily on swing shift Command Center exercises. Again, the major shortfall was the lack of dedicated resources to provide indications and warning. The 24-hour news channels were the primary source of information and, because of that, it was mainly reactive.

When the Joint Operations Center, which was originally called the Domestic Warning Center, was stood up in Building Two at Peterson Air Force Base, a separate operational concept was developed. Even though there was more manpower in the Domestic Warning Center to develop the needed situational awareness, they were not effective in supporting the Domestic Conferencing requirements. The synergies of both centers were not fully utilized and were hindered due to the separation of resources. Recently, the announcement was made that the two operations centers would be combined and that Cheyenne Mountain would become a warm backup. Hopefully, this will streamline and prioritize the dissemination of information to national decision makers.

Even though this is a major improvement, it still doesn't go far enough in the collaboration arena and still hasn't developed the network needed to effectively monitor domestic activity. However, there is a solution in sight if only the National Guard structure and capabilities are capitalized on to provide decision makers with the solution for rapidly pushing and pulling domestic information.

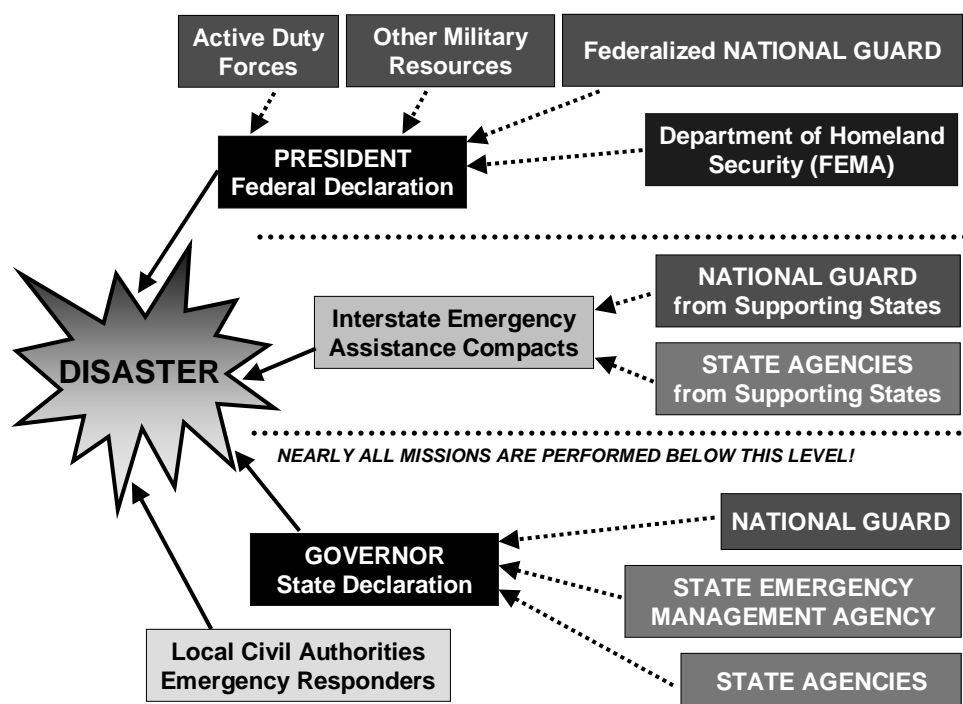
The National Guard has both federal and state responsibilities specified in the Constitution of the United States. Title 10 and 32 of the United States Code define the organized militia and how it supports the governors and the President in war and during domestic contingencies. The dual status of the National Guard enables response in either a State (Title 32) or Federal (Title 10) capacity (see Figure 4).



**Figure 4. The National Guard: Dual Status/Dual Mission**

In a tiered response to incidents, with all emergencies happening at the local level, the Guard will be the first military responders in most instances arriving after local responders have initiated their activities (see Figure 5). This is because the Governor will employ his/her Guard assets in State Active Duty or Title 32 status as soon as a military capability is needed to augment civilian emergency response capabilities. During overwhelming national emergencies the President can activate or federalize (Title 10) the Guard and still have the existing communications into the local responder's networks. Since 9/11 there has been an ongoing transformation of the National Guard to enhance its capabilities to participate in both the expeditionary war fighting and homeland defense and civil support contingencies required by the Goldwater-Nichols Act. This is an ongoing and substantial change to the National Guard and has resulted in this force being operationally focused, resulting in a ready, relevant, and accessible capability. This dual-use capability will come

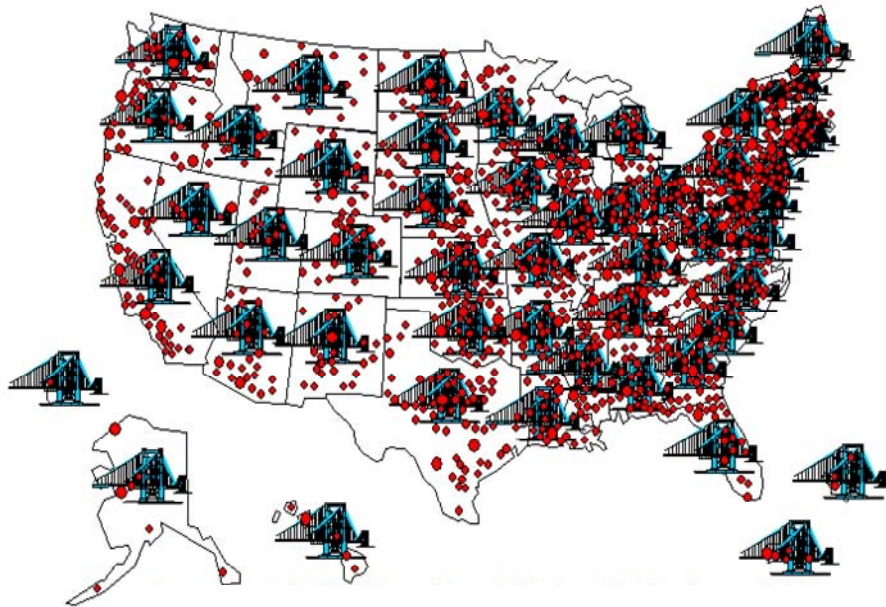
with an additional cost in training and equipment expense. Because the Army and Air Force depend upon the Guard to support operations overseas, there will be a need to train replacement units as forces rotate through the expeditionary role. This will ultimately provide the nation with a broadly trained homeland security force, but it must be monitored closely to make sure that it doesn't impact recruiting.



**Figure 5. The National Guard: Tiered Response**

The Guard is stationed in 3,300 communities (54 states, territories, and D.C.), existing in 2,700 armories and 500 Air National Guard (ANG) facilities nationwide.<sup>14</sup> It is this grassroots presence and proximity to local law enforcement, first responders, and local government agencies that needs to be used in supporting neighboring communities in times of crisis, both up and down the collaborative environment (see Figure 6).

## **When You Call Out The Guard, You Call Out America**



**Figure 6. Approximately 3,300 National Guard Locations Nationwide**

In addition to situational awareness, National Guard forces also possess many of the key capabilities needed for homeland defense and civil support operations. These capabilities range from air defense, transportation, intelligence, communications, security, medical, and chemical decontamination expertise. A synopsis of developing National Guard capabilities follows.

## **Weapons of Mass Destruction-Civil Support Teams**

The Guard has been shaping forces for Homeland Security since 1999. This was the year that Congress funded the formation of Weapons of Mass Destruction-Civil Support Teams (WMD-CSTs) within the National Guard. Congress has authorized and funded 55 WMD-CSTs



which are designed to provide direct assistance to civilian emergency responders.

Every state, territory, and the District of Columbia will have a team, with California having two teams, for a total of 55 to meet congressional intent and mandate.<sup>15</sup> These teams are specially trained to provide expertise to first tier local responders in the event of a chemical, biological, radiological, nuclear, or high explosive attack on the homeland. These teams have proven to be very effective and all 55 teams will be certified by early 2007.

A WMD-CST is composed of 22 people – seven officers and fifteen enlisted specialists that come from both the Army and Air National Guard. Teams are on standby 24/7 and can have an advanced echelon deployed within 90 minutes.<sup>16</sup> Assigned vehicles consist of four unique capable platforms and two to four general purpose vehicles. The four specialized vehicles are a command vehicle, operations van, a communications vehicle called a Unified Command Suite which provides a broad range of communications capabilities including satellite communications, and an Analytical Laboratory System van which contains a full suite of analysis equipment to support the medical team.

A WMD-CST normally deploys via surface travel out to 250 miles, but can be airlifted if distances are greater than that. The WMD-CST commander can advise the incident commander as to the type and level of hazard present, possible courses of action, and additional National Guard assets that are available. Typically, WMD-CSTs would be second responders in crises whereas local responders would be the first responders.

The robust communications capability of the Unified Command Suite allows the WMD-CST to contact a wide range of technical experts as well as push incident status up channel to national decision makers. The New York National Guard's 2nd Civil Support Team was the first organized unit of any military service or component to arrive at Ground Zero on the morning of September 11, 2001, sampling the air to ensure that no biological or chemical contaminants were present and providing critical communications capabilities.<sup>17</sup>

When requested by civil authorities and with the governor's approval, the teams rapidly deploy to an actual or suspected domestic incident site, conduct identification of agents/substances, assess the potential effects of

the weapons of mass destruction incident, advise local authorities on managing the results of the attack and assist with appropriate requests for additional support in order to minimize the impact on the civilian populace. The teams are equipped with a mobile laboratory capable of identifying chemical or biological materials, and with a sophisticated communications suite that can link the incident site with other local, state, and federal agencies and military headquarters. This combination of skill and equipment makes these teams decisive contributors to public order, stability of government, and public confidence in our national defense. The timely and effective response of these teams to the needs of the emergency response community has resulted in their acceptance as valuable and integral members of the first military response to terrorism.<sup>18</sup>

## **CBRNE Enhanced Response Force Packages (CERFPs)**

Although WMD-CSTs can bring a significant response capability to an incident or terrorist attack in America, they can't do it all. They have limited abilities to treat casualties, decontaminate personnel, extract victims from rubble, and don't have the depth to provide security. For these tasks, in the last two years the Guard has stood up a dozen Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Enhanced Response Force Packages (CERFPs). Congress in 2006 directed and funded an additional 5 such units to increase this response capability to 17 teams, stationed strategically across the country. These CBRNE Enhanced Response Force Packages augment WMD-CSTs in response to weapons of mass destruction. They leverage existing warfighting units – medical, engineer, chemical, and other branches – and are given additional training and equipment to provide the weapons of mass destruction response capability that this country needs.<sup>19</sup>

The first dozen CBRNE Enhanced Response Force Packages were strategically positioned to cover all ten Federal Emergency Management Agency regions and provide the nation a weapon of mass destruction response. Each package has four capabilities: search and extraction, decontamination, medical, and command and control. The units have a

joint composition: an Army National Guard engineer battalion handles search and extraction, an Army Guard chemical battalion does the decontamination, and an Air Guard medical group provides the medical element.<sup>20</sup> These CERFP teams will provide a follow-on phased capability that will mitigate the potential effects of a weapon of mass destruction incident that has been assessed by a WMD-CST. In the initial hours of an incident, a regional CBRNE Enhanced Response Force Package will deploy to the incident site and provide follow-on capability to locate and extract victims from a contaminated environment, perform medical triage and treatment, and then perform mass patient/casualty decontamination in support of civil first responders.

### **CERFP Search and Extraction Element**

The Search and Extraction Elements are responsible for conducting casualty search and extraction at the incident site. Extraction levels of capability are defined as basic, light, medium, and heavy operations. The Search and Extraction Elements have received training in accordance with the National Fire Protection Association 1006 Standard for Rescue Technician Professional Qualifications. Special emphasis is on rescuer safety, breaching/breaking, debris lifting and moving, rigging techniques, and basic shoring concepts. This is the same type of training that civilian urban search and rescue teams receive, which minimizes integration of team members into operations. If the incident site is contaminated by radiation, the maximum exposure times will be calculated before sending personnel in to conduct searches. The exposure of rescue personnel will be monitored to reduce the risk that rescuers do not become casualties.

### **CERFP Decontamination Elements**

The Decontamination Elements conduct ambulatory and non-ambulatory patient decontamination. After the WMD-CST has conducted a sweep of the incident site and determined the type and level of contamination present, the area is cordoned off, if possible, and entry control points are established. Using this information, the Decontamination Element develops a decontamination action plan which includes the correct procedures and materials for the decontamination process. Lines are set up at entry control points to process patients coming

out of the hot zone, ensuring that no contamination is spread outside the contaminated area. Injured patients are processed under the supervision of medical personnel to ensure that the decontamination procedure doesn't cause further injury.

### **CERFP Medical Elements**

The Medical Elements provide sophisticated and short duration, pre-hospital emergency medical treatment during a chemical, biological, radiological, nuclear, or high-yield explosive response at an incident site. This element works with decontamination and/or casualty extraction teams to provide medical triage, treatment, and stabilization prior to evacuation. It is capable of working in coordination with the Disaster Medical Assistance Team under the auspices of the National Disaster Medical System. The Medical Element is prepared to respond to a wide range of issues including physical injury caused by blast effect and collapsing structures, stress related issues, radiation exposure, and chemical and biological contamination. The goal of the team is to make sure that victims are thoroughly decontaminated and stabilized before being moved to permanent medical facilities.

### **Guard Quick Response Forces**

A National Guard Quick Response Force will provide security for the WMD-CST and CBRNE Enhanced Response Force Package during an incident. This is a force that is available to be tasked in each state and territory, a ready combat arms force capable of responding at the request of the governor or the President. These forces are a critical element in the first line of counter-terrorism defense. The package is tailored to respond to an incident well ahead of federal assets and deploy with the capability to be self-sustaining for 48 hours. This is a unit consisting of 50 to 75 personnel sent to the site within 4 hours, and a follow-on force of up to 400 personnel capable of arriving within 24 hours.<sup>21</sup> These forces are formed from current Guard units and personnel resources, keeping the costs for these capabilities low. The usual employment and organization for these forces are as a temporary task force.

## **National Guard Can Provide Forces and Situational Awareness in Crises**

The National Guard has played a critical role in ensuring the nation's security since its inception on December 13, 1636. It was on this date that the Massachusetts Bay Colony mandated that its militia companies be organized into the first three militia regiments in North America.<sup>22</sup> It continues to transform as an organization in order to counter any terrorist threats that may arise, as well as stand ready to respond to other types of domestic emergencies. It maintains links to state and local emergency responders because the Guard is a part of the local community. If we take the National Guard's preponderance of capabilities and the comprehensive collaborative environment that has been coordinated with U.S. Northern Command to its logical conclusion, then it is apparent that it should play a more pivotal role in providing the national decision makers the needed information for responding to a domestic event. The Guard's dual status of national and local asset, and being located in the local community, allows it to provide a collaborative environment that can move critical information faster than any other agency; this fact cannot be stressed enough. Such a change will not be a panacea, but if given a larger role to play, the Guard using a Domestic Event Conferencing model would provide better situational awareness for decision makers than primary dependence on the 24-hour news channel as is now the case. This will be the beginning of an unambiguous domestic response capability comparable to that seen in the current military attack warning systems. The added benefit is that using Guard personnel and equipment would cost a fraction of what it otherwise would be for a dedicated active duty force. The National Guard can better protect the homeland and should be given this larger situational awareness enhancing role. It would be a bargain – the best and most cost-effective use of taxpayer dollars.



## Notes

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